

NRCS 590 Standard Update



Changes From 2005 to 2015

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DEPARTMENT OF AGRICULTURE, TRADE, AND CONSUMER PROTECTION

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WHAT IS NUTRIENT MANAGEMENT?

Definition

Managing the amount (rate), source, placement (method of application), and timing of plant nutrients and soil amendments.

Purposes

- Budgeting, supplying, and conserving nutrients for plant production.
- Minimizing the risk of agricultural nonpoint source pollution of surface and groundwater resources.
- Properly utilizing manure or organic by-products as a plant nutrient source.
- Reducing odors and reactive nitrogen emissions
- Maintaining or improving the physical, chemical, and biological condition of the soil.



SNAP+ / SNAP MAPS

- All NM Plans written through SNAP+ are following the 2015 standard.
- All of the new restrictions and prohibition areas are available in SNAP Maps.
- <https://snapmaps19.snapplus.wisc.edu/>

Restriction Layers Turn on/off all



 Door Cty Ord. no manure



 Dane Co. Winter restrictions LiDAR Slope > 6%



 Washington Co. Winter restrictions LiDAR Slope > 6%



 Winter Restriction if Slope > 6%



 No Winter App. Slope > 12%



 SWQMA 1000FT



 CAFO SWQMA 300FT



PRIMARY UPDATES IN 2015 STANDARD

1. General Guidelines
2. Application Prohibitions
3. Winter Spreading
4. Winter Spreading Plan
5. Groundwater Protection
6. Fall Nitrogen Changes

<https://datcp.wi.gov/Documents/NM590Summary2015.pdf>



GUIDELINES FOR ALL FIELDS

2005

- Do not exceed A2809 recs.
- No runoff from intended application sites.
- Soil erosion remains below T during rotation
- Include perennial vegetation in concentrated flow areas
- Use a P management strategy

2015

- 2005 recs +
- Control ephemeral erosion
- Show adequate spreading acreage
- Rescue N may be used where rain has caused an N deficiency
- Utilize book values or sample manure to estimate available nutrients
- Account for nutrients deposited by pastured or gleaning animals.



APPLICATION PROHIBITIONS (2015)

- Concentrated flow channels; surface water; saturated soils; areas of active snowmelt where water is flowing; land where vegetation is not removed.
- Direct conduits to groundwater, potable well, or within 8' of irrigation wells.
- Within 50' of direct conduit to groundwater*
- Near public water supplies within 1000' of a community potable well, 100' of a non-community potable well, unless manure is treated to substantially eliminate pathogens
- Areas locally delineated by the Land Conservation Committee or in a conservation plan as areas contributing to runoff to direct conduits to groundwater unless manure is substantially buried within 24 hours.



WINTER SPREADING

“Winter” is defined as the period where the ground is snow covered and/or frozen and does not allow for effective incorporation of manure.

Example image: Manure Prohibition areas due to SWQMA and non-farmed areas.



WINTER SPREADING CHANGES

2005 Requirements

- 7,000 gallon application per acre limit
- No manure spreading:
 - On slopes >12%
 - Within SWQMAs
 - Locally identified areas (ie sinkholes)
 - Within 200 ft upslope of direct conduits to groundwater

2015 Requirements

- 7,000 gallon limit or 60 lbs P₂O₅ per acre
- No manure applications within 300 ft of direct conduits to groundwater
- 2005 spreading prohibitions plus:
 - No spreading on >6% slopes
 - No liquid manure applications in February and March on:
 - DNR Well Compensation Areas
 - Soils with 5 ft or less to Silurian dolomite



DNR WELL COMPENSATION AREA

Winter Spreading layers Turn on/off all

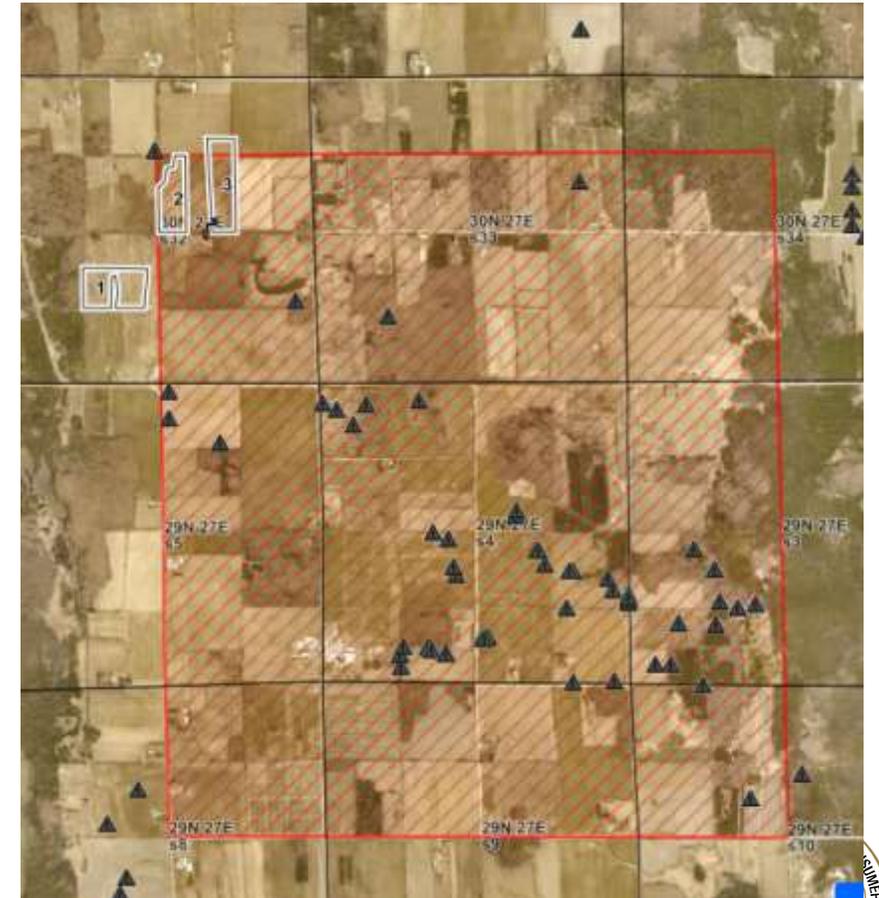
- Slopes > 6%
- Well compensation
- Shallow Silurian (0-5 ft bedrock)
- Channelized Flow 200ft Buffer
- Direct Conduit to GW 300ft
- Headland stacks

Winter Manure Prohibited Areas (Update to display/changes) Turn on/off all

Update winter manure prohibited areas

- Feb/Mar liquid manure prohibited areas
- Winter manure prohibited areas

Wells that had previously been contaminated by manure and subsequently treated or replaced by the DNR. Layer provided by DNR. Prohibits spreading in Feb./Mar.



WINTER SPREADING PLAN CHANGES

2005

- Requires a winter spreading plan that identifies:
 - Areas of fields that don't have a winter restriction
 - ID fields with low slope and erosion, high roughness, farthest from surface waters

2015

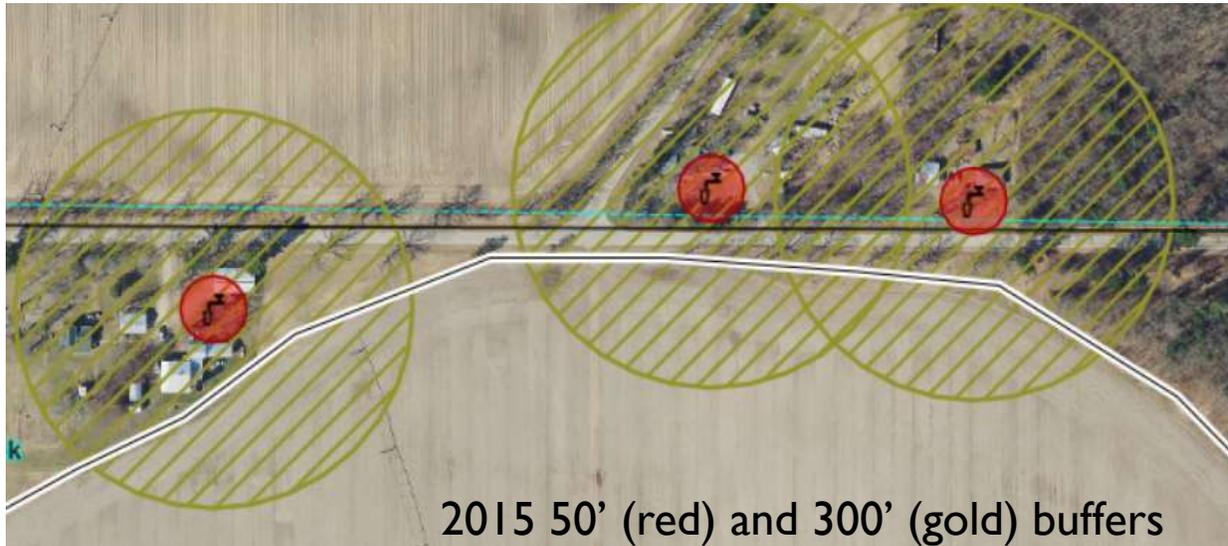
- Identify quantities of manure spread during winter, or generated in 14 days, whichever is greater;
- storage/ stacking capacity for each manure type applied on the farm —
 - manure that is $\geq 16\%$ solids without permanent storage, complete an evaluation to determine if stacking sites consistent with NRCS 313 standard are available.



CONDUITS TO GROUNDWATER

2005

- Incorporate manure within 72 hours (i.e. no winter applications)
- Incorporate manure 200 ft. Upslope of direct conduits to groundwater
- No manure within 50 ft. of drinking well, unless grazing



2015

- All Seasons
 - Pasturing is allowed near wells, in SWQMA, and on all slopes in winter
- Spring, Summer, Fall
 - Allows surface applications on no-till
 - Surface applications allowed on growing crops
- No nutrients:
 - Within 50 ft unless animal deposition, or starter corn fertilizer.
 - Within 300 ft during the winter
 - Within 8 ft. of irrigation wells



FALL NITROGEN RESTRICTIONS

2005

1. No fall commercial N on N restricted soil types
 1. W - Shallow to water (12")
 2. R - Shallow to bedrock (20")
 3. P - Highly Permeable (sands)
 4. w/in 1,000 ft of municipal wells
2. Split or delay applications
3. Use N inhibitors

2015

- No fall commercial N fertilizer on:
 - N restricted soils
 - Areas w/in 1,000 ft of a community well
 - 5 ft or less to bedrock,
 - **EXCEPTION** where a blended fertilizer is needed to meet UWEX A2809 guidelines, limited to 30 lbs N/ac



FALL NITROGEN RESTRICTIONS

2005

When manure is applied to W, R,
or P soils:

- Limit applications in the fall based on soil temperatures and crop type

2015

More specific limits in the fall on W,
R, P soils:

- based on the crop uptake
- Requires additional practices for liquid manure applications



LATE SUMMER OR FALL MANURE OR ORGANIC BY-PRODUCTS: LIMIT RATE TO 90 OR 120 LBS N/AC

Rate depends on manure dry matter, crops, and restricted soil type—P, W, or R soils

-
- Bedrock depth <5ft
- N Restricted (P,R,W soils)*
-
- P - High Permeability
-
- R - Bedrock <20"
-
- W - Wet <12" to Watertable



FOR LATE SUMMER OR FALL MANURE OR ORGANIC BY-PRODUCTS WITH GREATER THAN 4% DRY MATTER:

On **W** or **W** combination soils:

- Limit to either 120 lbs available N/acre OR rates from A2809 –whichever is LESS.

On **P** and **R** Soils:

- For established cover crops, overwintering annual crops, or perennial crops, limit rates to either **120 lbs** available N/acre OR rates from A2809 –whichever is LESS.
- For annual crops that won't be planted until Spring or Summer, delay application until soil temperatures are < 50 degrees F
- **AND** limit rates to either **120 lbs** available N/acre OR rates from A2809 - whichever is LESS.



FOR LATE SUMMER OR FALL MANURE OR ORGANIC BY-PRODUCTS WITH LESS THAN OR EQUAL TO 4% DRY MATTER:

On **W** or **W** combination soils:

- Limit to either 90 lbs available N/acre **OR**
- Use 120 lbs available N/acre **AND** do one of the following:
 - Apply on an established cover crop, overwintering annual crops, or perennial crop.
 - Use a nitrification inhibitor.
 - Establish a cover crop within 2 weeks of application.
 - Surface apply and do not incorporate for at least three days.
 - Delay application until after soil temperatures are < 50 degrees F.

On **P** and **R** Soils:

- Limit to 120 lbs available N/acre
- Delay application until soil temperatures are < 50 degrees F.
- **AND** use a nitrification inhibitor
- **OR** surface apply and do not incorporate for at least 3 days.





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